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| 09/761,492 | 01/16/2001 | Christopher J. Spencer | D/A0A93 | 5889 |

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| EXAMINER | |
|---|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2622 | |

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/761,492 | SPENCER, CHRISTOPHER J. | |
| | Examiner | Art Unit | |
| | Cheukfan Lee | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-15* is/are allowed.

6)☒ Claim(s) *1,4-6,9 and 10* is/are rejected.

7)☒ Claim(s) *2,3,7,8,11,12 and 16-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2 and 3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-20 are pending. Claims 1, 13 and 16 are independent.

2. Claims 4-8 and 16-20 are objected to for the following:

In claim 4, line 2, "optical element" should read – the optical element – in order to refer the basis of the term in claim 1.

In claims 5-8 are objected to as being depend upon objected claim 4.

In claim 16, line 5, "relative" should read – relative to --; and

Line 5, "one another" should read – each other --. The term "one another" is used when there are three or more items involved. The claim recites two items, the width detection backer and the optical element.

In claim 17, line 7, "position structure" should read – position the structure --.

Claims 17-20 are objected to as being dependent upon objected claim 16.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al. (U.S. Patent No. 4,623,938) in view of Newell (U.S. Patent No. 6,621,599).

Regarding claim 1, Asano discloses a document image scanner and a method of identifying edges of a document being scanned. The scanner includes an optical element (within housing 1 including 5-9) having a focal plane, which is inherently the top surface of the document supporting glass (2) (Fig. 1). The scanner further comprises a document cover (3) having a colored lower surface (black surface) for the purpose of detecting the edges, and thus the width and size, of a document. The document placed on the document glass (2) at the focal plane and covered by the document cover (3) is scanned by the optical element (including image sensor 9), producing signals shown in Fig. 5A, which represents the original document existing range (width W) as white level except for the dark parts constituting the image, while representing the outside range as black level corresponding to the cover (3). The signals are analyzed to identify the edges and width of the document. Therefore, edges and width of the document are detected using contrast between the signals (Figs. 3-5, col. 5, lines 20-50, col. 6, line 54 – col. 8, line 15, and col. 8, lines 36-65). The specific details of the cover for a thick document being scanned, a three dimensional original document such as a book, is explained with reference to Fig. 13-15 (col. 8, line 36 – col. 9, line 18). When a thick document such as a book is scanned, the black or colored surface of the cover (3) is inherently simultaneously within the field of view of the optical element (5-9) and out of the focal plane because the focal plane is on the upper surface of the document glass (2).

The (scanner and) method steps of Asano read on or correspond to the claimed method. The cover (3) reads on the claimed width detection backer. The positioning of

the cover (3) on the back of the thick document reads on the claimed positioning a width detection backer simultaneously in the field of view of the optical element and out of the focal plane of the optical element. The positioning of the document in the optical path between the optical element (5-9) and the cover (3) reads on the claimed positioning a portion of a document in the optical path between the optical element and the width detection backer, since the entire document includes "a portion" of the document. The scanning of the document with the optical element (5-9) corresponds to the claimed scanning the portion of the document. The analyzing of the signals from the scanning to identify data indicative of an edge of the document (col. 6, line 55 – col. 7, line 2+) reads on the claimed analyzing information for the scanning step to identify data indicative of an edge of the document.

Asano differs from the claimed invention in that the entire document is scanned (in pre-scanning) instead of a portion of the document as claimed.

However, scanning a number of lines (several scanlines or a plurality of scanlines) of a document and/or backing less than the entire document to obtain image data for document edge or width detection is taught by Newell (Auto-Width Detection using Backing Image, col. 7, line 23 – col. 8, line 10).

Because a portion or a plurality of the scanlines include data sufficient for detecting left and right edges and the width of the document, it would have been obvious to one of ordinary skill in the art at the time the invention was made to scan a portion (several scanlines) of the document instead of the entire document of Asano, as

taught by Newell, to reduce the amount of time required to detect edges or width of the document.

Regarding claims 4 and 5, though Asano and Newell disclose different types of scanners, i.e., Asano's scanner scans a stationary document with a moving optical element, and Newell's scanner is a document feed type, relative motion between the scanning element and the document is created by both scanners. One of ordinary skill in the art would have realized that, in general, document feed type scanner such as Newell's scanner is more compact compared to the stationary document type scanner of Asano. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Newell and Asano discussed above to provide a scanner wherein scanning is effected by having the optical element stationary and moving the document past the optical element along the optical path.

Regarding claim 6, based on the reason given for claims 4 and 5, the width detection backer or document cover is stationary relative to the optical element during the scanning.

Claim 9, which depends upon claim 1, recites "selectively positioning the width detection backer out of the field of view of the optical element". In the scanner of Asano in view of Newell discussed for claim 1 (which is not a document feed type scanner), when an operator opens the document cover (3 of Asano) (width detection backer)

wide, the cover (3) is selectively positioned out of the field of view of the optical element (5-9) by the operator.

Regarding claim 10, the document cover (3) of Asano reads on the claimed width detection backer as discussed for claim 1 (Fig. 1 of Asano). According to the cover for thick document discussed for claim 1, the reinforced cover is really a structure that contains the cover (col. 8, line 36 – col. 9, line 18). According to Fig. 1, the axis (1') about which the structure (3) is rotated is positionally fixed relative to the optical element (9 or 1). The structure (3) is rotated about the axis (1') to its closed position to be on top of the thick document placed on the glass (2). Therefore, the scanner of Asano in view of Newell still meets all claim limitations.

5. Claims 2, 3, 7, 8, 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 16 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

7. Claims 17-20 would be allowable if rewritten to overcome the rejection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Claims 13-15 are allowed.

9. The following is an examiner's statement of reasons for allowance:

Claims 2 and 3 would be allowable because none of the prior art of record, including the above applied Asano and Newell, discloses leaving a space between the document and the backer or document cover, in the step of positioning the document or book. The examiner found no motivation to hold the cover still to leave a space between it and the document as claimed in claim 2. Claim 3 depends upon claim 2.

Claims 7 and 8 would be allowable because in the scanner of Asano in view of Newell discussed for claim 6, which scanner is the document feed type, it is not seen how it is possible that the width detection backer (document cover) is "selectively" positioned out of the field of view of the optical element in the document feed scanner, as claimed in claim 7. None of the prior art teaches a width detection backer that is selectively positioned out of the field of view of the optical element of a document feed type scanner. Claim 8 depends upon claim 7.

Claims 11 and 12 would be allowable because none of the prior art disclose an additional backer in addition to the width detection backer (corresponding to the document cover 3 of Asano) and selectively positioning the additional backer in the field of view of the optical element as claimed in claim 11. Claim 12 depends upon claim 11.

Claims 13-15 are allowed because the prior art of record does not teach a width detection backer formed by a portion of the outer surface encompassing a first segment of the circumference of the outer surface of a substantially cylindrical casing of an apparatus for a scanner, the width detection backer portion and the other portion of the outer surface being of contrasting colors, as claimed in claim 13. Claims 14 and 15 depend upon claim 13.

Claims 16-20 would be allowable because none of the prior art of record teaches, in a document scanner, a driver operatively connected to selectively position a width detection backer and the optical element relative to each other so that the width detection backer is simultaneously in the field of view of the optical element and out of the focal plane of the optical element, as claimed in claim 16. Claims 17-19 depend upon claim 16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Son et al. (U.S. Patent No. 6,005,683) discloses a method of document edge detection using a linear image sensor.

Tanaka et al. (U.S. Patent No. 5,805,803) discloses an automatic judging device about image read width. (Document is not scanned in width detection. Only parts 17 and 18 are.)

Lee (U.S. Patent No. 6,134,027) discloses a method and device for determining scanning dimension.

Tang et al. (U.S. Patent No. 6,636,335) discloses a wide image scanner.

Cook (U.S. Patent No. 6,271,935) discloses a method to remove edge artifacts from skewed originals.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (703) 305-4867. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
March 10, 2004

Cheukfan Lee